

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) An electronic circuit (~~4~~) provided with a piezoelectric transformer (~~100~~) for driving an electronic component (~~19~~), in which circuit the transformer (~~100~~) comprises a primary plate (~~4~~) and a secondary plate (~~8~~) made from a piezoelectric material, together with an intermediate insulating layer (~~6~~) interposed between the primary and secondary plates (~~4, 8~~), the primary plate (~~4~~) being arranged to transmit a displacement signal to the secondary plate (~~8~~) through the intermediate layer (~~6~~) in response to a primary signal that is transmitted to the primary plate via the electronic circuit, and the secondary plate (~~8~~) delivering a secondary signal to the electronic component (~~19~~) as a function of the primary signal for the purpose of driving the electronic component (~~19~~) to which the secondary plate (~~8~~) is connected, the circuit being characterized by the fact that it comprises a first layer (~~2~~) in which the primary plate (~~4~~) is integrated and a second layer in which the secondary plate (~~8~~) is integrated, the first and second layers (~~2, 5~~) being galvanically isolated from each other by the intermediate layer (~~6~~).

2. (Currently Amended) An electronic circuit according to claim 1, in which the first and second layers (~~2, 5~~) are constituted by a substrate of a material selected from printed circuit material, ceramic material, and semiconductor material, and each supporting one printed circuit face, the primary and secondary plates (~~4, 8~~) being fastened in recesses (~~13~~) previously formed in each of the layers respectively.

3. (Currently Amended) An electronic circuit according to claim 2, in which at least one conductive layer (~~6a~~) is interposed between the first and second layers (~~2, 5~~).

4. (Currently Amended) An electronic circuit according to ~~any preceding~~ claim 1, in which the electronic component (~~19~~) is a power transistor integrated in the second layer (~~5~~) and having a gate receiving the secondary signal.

5. (Currently Amended) An electronic circuit according to ~~any preceding~~ claim 1, the first layer (~~2~~) having a primary circuit (~~PRIM~~) comprising a modulator (~~MOD~~) connected to the primary plate (~~4~~) and adapted to form the primary signal with at least one carrier signal being modulated by a drive signal (~~SIG~~), and to deliver the primary signal as formed in this way to the primary plate (~~4~~); and

the second layer (~~5~~) having a secondary circuit (~~SEC~~) comprising a demodulator (~~DEM~~) connected between the secondary plate (~~8~~) and the electronic component (~~19~~), and adapted to transmit to said electronic component (~~19~~) a signal demodulated from the secondary signal corresponding to the drive signal.

6. (Currently Amended) An electronic circuit according to claim 5, in which the secondary circuit (~~SEC~~) further comprises a rectifier device (~~10~~) connected between the secondary plate (~~8~~) and the demodulator (~~DEM~~), and adapted to rectify the secondary signal delivered by the secondary plate (~~8~~).

7. (Currently Amended) An electronic circuit according to claim 5 ~~or claim 6~~, in which the secondary circuit (~~SEC~~) further comprises a locking device (~~VER~~) connected between the demodulator (~~DEM~~) and the electronic component (~~19~~) and adapted to deliver a reliable demodulated signal to the electronic component (~~19~~).

8. (Currently Amended) An electronic circuit according to ~~any one of claims~~ claim 5 to 7, comprising an oscillator (~~OSC~~) adapted to deliver the carrier signal to the modulator (~~MOD~~) at a frequency that is close to a mechanical resonant frequency (~~f_R~~) of the transformer (~~100~~).

9. (Currently Amended) An electronic circuit according to claim 8, in which the oscillator (~~OSC~~) is adapted to deliver a carrier signal at a frequency close to the frequency of the second resonant mode of vibration of the transformer (~~100~~).

10. (Currently Amended) An electronic circuit according to ~~any preceding claim 1~~, in which the primary and secondary plates (~~4, 8~~) are made out of a piezoelectric material that is biased in thickness.

11. (Currently Amended) An electronic circuit according to ~~any preceding claim 1~~, in which the electronic component (~~19~~) is a MOSFET or an IGBT.

12. (Currently Amended) An electronic circuit according to ~~any preceding~~ claim 1, further comprising an additional piezoelectric primary plate integrated in the first layer ~~(2)~~, and an additional piezoelectric secondary plate integrated in the second layer ~~(5)~~ and connected to an additional electronic component ~~(19)~~, the electronic component ~~(19)~~ being connected to form a complete arm of a bridge.